136. A method, as claimed in claim 135, wherein each of the nodes transfers isochronous data, non-isochronous data, or a combination of isochronous data and non-isochronous data, in the system under control of the updatable table.

137. A method, as claimed in claim 97, wherein data transfer in the system is controlled so that bandwidth for isochronous data transfers is insensitive to a level of non-isochronous data transfers in the system.

138. A method, as claimed in claim 97, wherein data transfer in the system is controlled so that bandwidth for non-isochronous data transfers is insensitive to a level of isochronous data transfers in the system.

139. A method, as claimed in claim 97, wherein operations that the processor handles includes call control, signaling, maintenance activities, status processing, and error bookkeeping.

140. A method, as claimed in claim 97, wherein the update data comprises data transmitted over a D channel.

REMARKS

Claims 1-140 are in the application. While most claims were allowed, certain claims were rejected under Section 112. Applicant herein has amended claims 35, 76 and 123 to address one of the Section 112 issues. Applicant has amended claims 57 and 104 (added a "." at the end) and claim 94 (corrected "swithtable" to "switch table" at the end of the claim) to correct various informalities that were noted.

Applicant wishes to thank the Examiner for the detailed review of the claims. Applicant has endeavored herein to address the various Section 112 matters by amendment to certain of the claims and by setting forth exemplary support for the claims noted by the Examiner. Applicant is hoping to put the application in condition for allowance by these amendments. If there are further questions regarding, for example, the Section 112 matters, Applicant requests an opportunity to discuss such matters with the Examiner by way of a telephone or in-person interview.

For the convenience of the Examiner, Applicant will set forth the exemplary support after each of the claims noted by the Examiner.

25. Apparatus, as claimed in claim 24, wherein the isochronous data comprises telephony data, video data, or a combination of telephony data and video data.

Exemplary Support: Abstract; "A data communications system, such as a local area network, is provided with a capability of transmitting isochronous data." Col. 1, lines 22-28; "An isochronous data source is a device which outputs data in a continuous steam, usually at a substantially constant average data rate. Examples include video cameras, which output a substantially continuous stream of data representing images and associated sounds, and telephone output, which can be a substantially continuous output of voice data (either analog or digital)." Co. 1, line 66 to col. 2, line 1. "In isochronous data transfer, the data transfer or connection is initiated, such as by initiating a telephone conversation or beginning a video camera transmission 30." Col. 5, lines 35-36; "Description of hub circuitry in the following can be implemented, e.g., on a PBX adapter card for a personal computer." Col. 8, lines 44-46; "The data sources and sinks can be isochronous sources and sinks such as video cameras 48a, 48d and monitors 48b, 48e, . . ."

35. (amended) Apparatus, as claimed in claim 19, wherein the memory comprises a random access memory (RAM).

Exemplary Support: Col. 3, line 54; "(e.g., when a single port RAM is used for the table)." Col. 26, lines 50-53; "Although a single port RAM is preferred for the holding registers since this configuration requires less area on a silicon chip, it is also possible to provide the holding register as a dual-port RAM or multi-port RAM."

40. Apparatus, as claimed in claim 39, wherein the network reference clock comprises a WAN reference clock.

41. Apparatus, as claimed in claim 39, wherein the network reference clock comprises a LAN reference clock.

Exemplary Support: Col. 23, lines 6-13; "The reference signal can be provided by any of a number of sources. Preferably, an embodiment is configured to permit a reference signal 214 to be synchronized to an external clock reference, such as a reference signal from a wide area network or from a FDDI-II ring. The reference signal can be supplied through one of the nodes and transmitted to the hub for distribution to the other nodes, or can be supplied directly to the hub for distribution." Additional note to the Examiner; FDDI-II is a well know LAN standard; see Newton's Telecom Dictionary, page 336 (attached); "FDDI Fiber Distributed Data Interface.

FDDI is a 100 million bits per second fiber optic LAN. . . FDDI-II Fiber Distributed Data Interface-II is a recently standardized enhancement to FDDI."

43. Apparatus, as claimed in claim 42, wherein the hub comprises a PBX.

Exemplary support: Col. 5, lines 35-36; "Description of hub circuitry in the following can be implemented, e.g., on a PBX adapter card for a personal computer."

44. Apparatus, as claimed in claim 42, wherein the hub includes multiple LAN connections.

Exemplary support: Col. 26, lines 53-58; "A number of configurations of the present invention are possible. In one configuration, a 24-port hub includes 2 Ethernet repeaters, each supporting 12 Ethernet connections, two isochronous switching devices and 24 physical layer portions."

66. A method, as claimed in claim 65, wherein the isochronous data comprises telephony data, video data, or a combination of telephony data and video data.

See claim 25.

76. (amended) A method, as claimed in claim 53, wherein the memory comprises a random access memory (RAM).

See claim 35.

82. A method, as claimed in claim 80, wherein the network reference clock comprises a LAN reference clock.

See claims 40-41.

84. A method, as claimed in claim 83, wherein the hub comprises a PBX.

See claim 43.

85. A method, as claimed in claim 83, wherein the hub includes multiple LAN connections.

See claim 44.

93. A method, as claimed in claim 53, wherein the update data comprises data transmitted over a D channel.

Exemplary support. Col. 5, line 65 to col. 6, line 22; "Preferably, the isochronous data is placed onto the high bandwidth bus and retrieved from the high bandwidth bus (for transmission back to the destination nodes) according to switching tables programmed in accordance with

source/destination data transmitted over the D channel. In this way, the hub has sufficient intelligence to set up and maintain isochronous communication sessions or connections which may be requested on the D channel. . . The hub contains multiplexers for combining both isochronous-sourced data such as that retrieved from the high bandwidth bus, and non-isochronous-sourced data e.g. from Ethernet hub repeater circuitry. These data sources, along with M channel and D channel information, are multiplexed in a fashion similar to the multiplexing which occurred at the nodes and the multiplexed data is transmitted back to the nodes, preferably over a separate set of one-way twisted pair media. The nodes contain demultiplexers, similar to those found in the hub, for separating the isochronous-sourced data, non-isochronous-sourced data, D channel and M channel information streams." Col. 10, lines 23-27; "D channel information is provided from a D channel data stream source, preferably contained in a MAC or other circuitry in the system, or, for example, from the virtual key pad 48f at a variable data rate, such as a rate not exceeding about 64 Kbps." Col. 13, lines 16-21; "The destination for data, in the depicted embodiment, has been pre-established using the D channel information. The D channel information is sent to a processor 138. The D channel information which includes source and destination data is used to store values in a connection memory switch table 140."

98. A method, as claimed in claim 97, wherein the step of updating comprises:

sampling the second clock;

providing the sampled second clock to a circuit whose output has a corresponding relationship to the rising edge of the second clock.

Exemplary support: Col. 15, line 54 to col. 16, line 9; "In the embodiment of FIG. 12, the switch table and the processor are asynchronous in the sense that they run in accordance with two different clocks. In one embodiment, the processor runs at a 33 MHz clock while the switch table runs at a 12.5 MHz clock. Thus, it is necessary to allow for transfer of data across an asynchronous boundary 1252. Since the registers 1202, 1204, 1222, 1224 can write to either side of the asynchronous boundary 1252, it is necessary to assure that two sequential writes according to different clocks are still able to provide data into the proper registers. There is a synchronization clock in the register itself as well as external to the register. According to one embodiment, the low pulse is sampled and the sampled signal is provided to a one shot which

enables the controller 1206, 1226 to determine when the rising edge of the clock occurs. This scheme avoids the need for an asynchronous reset. When attempting to synchronize to the 33 MHz clock, after the write pulse goes high, a delay is instituted. In the absence of such a delay, if there is a write according to the 12.5 MHz clock, followed by a write according to the 33 MHz clock, the write before the 12.5 MHz clock will extend into the 33 MHz time. The delay pushes that time back until the actual time of the write."

113. A method, as claimed in claim 112, wherein the isochronous data comprises telephony data, video data, or a combination of telephony data and video data.

See claim 25.

120. A method, as claimed in claim 112, wherein the bus comprises a bus for carrying ATM, SONET or 1394 data.

Exemplary support: Col. 5, lines 60-62. "The data arriving from the nodes can be placed onto the high bandwidth bus by e.g. a time slot interchange (TSI) function. One type of time slot interchange is described in FDDI-II Hybrid Multiplexer, Revision 2.4, dated Mar. 25, 1991." Col. 26, lines 46-49; "It is possible for the hub to distribute received isochronous data to the various transmitters using a system other than time slot interchange, such as P1349, ATM or SONET."

123. (amended) A method, as claimed in claim 97, wherein the memory comprises a random access memory (RAM).

See claim 35.

128. A method, as claimed in claim 127, wherein the network reference clock comprises a WAN reference clock.

129. A method, as claimed in claim 127, wherein the network reference clock comprises a LAN reference clock.

See claims 40-41.

130. A method, as claimed in claim 97, wherein the updatable table controls a hub in the system.

Exemplary support: See the Fig. 7 and the discussion beginning at col. 12, line 19 and Fig. 12 and the discussion beginning at col. 15, line 1.

131. A method, as claimed in claim 130, wherein the hub comprises a PBX.

See claim 84.

132. A method, as claimed in claim 130, wherein the hub includes multiple LAN connections.

See claim 44.

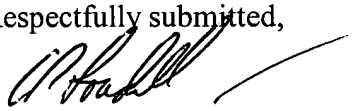
140. A method, as claimed in claim 97, wherein the update data comprises data transmitted over a D channel.

See claim 93.

No new matter has been added by this Amendment.

No additional fee is believed due. Please charge any additional fees due, or credit any overpayment, to Deposit Account No. 50-0251.

Respectfully submitted,



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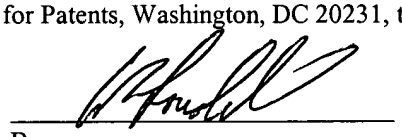
CERTIFICATE OF MAILING (37 CFR 1.8a)

I hereby certify that the foregoing is being deposited with the U.S. Postal Service, postage prepaid, to the Assistant Commissioner for Patents, Washington, DC 20231, this 11th day of January, 2001.



By: